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**From:** Hines, Ronald [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=464F333922CC4AA68DB2A1677122AB58-HINES, RONALD]  
**Sent:** 7/12/2019 11:54:00 AM  
**To:** Lupton, Sara - ARS [sara.lupton@usda.gov]; Schlosser, Paul [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=121cf759d94e4f08afde0ceb646e711b-Schlosser, Paul]; El-Masri, Hisham [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9234b4abf56f43cebdcd249b8274b36d-El-Masri, Hisham]; Esteban, Emilio - FSIS [Emilio.Esteban@fsis.usda.gov]; Hoff, Dale [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7869a2d513614599a4b29144c3442d24-Hoff, Dale]; Kapraun, Dustin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3a53c151b92a472fbfb295ed5df982a7-Kapraun, Du]; Kraft, Andrew [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4a94a4f199b247778abb02285a51b927-Kraft, Andrew]; LaLone, Carlie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e8ef170ef62c4180806e38418908f605-LaLone, Carlie]; Lau, Chris [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd4494e8927a4d78a5d2b9b20c618d4e-Lau, Chris]; Abbott, Linda - OCE [linda.abbott@usda.gov]; Mills, Marc [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=19bfc56d07db477c816c9ebce95be331-Mills, Marc]; Morgan, Marsha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dd3afb12720d42e0874d371eb51775ad-Morgan, Marsha]; Nichols, John [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=95ff268ad8554f0db7d60f84582dd6a4-Nichols, John]; Smith, David - ARS [david.j.smith@usda.gov]; John.Johnston@fsis.usda.gov [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b362305ae7de46ff815228e38095a6fb-John.Johnst]; Wetmore, Barbara [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1c4254231430480db6d8dc22301ef45c-Wetmore, Ba]  
**Subject:** RE: USDA-EPA Collaboration

Thanks Sara.

Ron

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**From:** Lupton, Sara - ARS <sara.lupton@usda.gov>  
**Sent:** Thursday, July 11, 2019 6:13 PM  
**To:** Hines, Ronald <Hines.Ronald@epa.gov>; Schlosser, Paul <Schlosser.Paul@epa.gov>; El-Masri, Hisham <El-Masri.Hisham@epa.gov>; Esteban, Emilio - FSIS <Emilio.Esteban@fsis.usda.gov>; Hoff, Dale <Hoff.Dale@epa.gov>; Kapraun, Dustin <Kapraun.Dustin@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; LaLone, Carlie <lalone.carlie@epa.gov>; Lau, Chris <Lau.Christopher@epa.gov>; Abbott, Linda - OCE <linda.abbott@usda.gov>; Mills, Marc <mills.marc@epa.gov>; Morgan, Marsha <morgan.marsha@epa.gov>; Nichols, John <Nichols.John@epa.gov>; Smith, David - ARS <david.j.smith@usda.gov>; John.Johnston@fsis.usda.gov; Wetmore, Barbara <wetmore.barbara@epa.gov>  
**Subject:** RE: USDA-EPA Collaboration

Hi All,

I have attached some ADME work our lab has done in beef cattle over the last 9 years. I have also included John Johnston on this email as he has done some modeling for PFOA and PFOS in livestock using our data.

In reference to the dairy herd that Paul mentioned in his email, those animals have not been destroyed and are being maintained for now. We are working with FSIS (Emilio Esteban and John Johnston) and New Mexico State University on a project utilizing that herd of dairy cows. We purchased 30 of the animals (dry, lactating, and young) for research and are doing a time-course depletion study. We are looking at plasma levels and concentrations in several tissues. For more details, I will defer to Emilio.

We are a research facility and our research unit specializes in ADME work utilizing livestock species. For our future work, we are looking into possibly

### Ex. 5 Deliberative Process (DP)

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If you have questions on our previous work or want to know more of the capabilities of our lab please email myself or David.

Thanks,

*Sara*

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**From:** Hines, Ronald <[Hines.Ronald@epa.gov](mailto:Hines.Ronald@epa.gov)>

**Sent:** Thursday, July 11, 2019 2:47 PM

**To:** Schlosser, Paul <[Schlosser.Paul@epa.gov](mailto:Schlosser.Paul@epa.gov)>; El-Masri, Hisham <[El-Masri.Hisham@epa.gov](mailto:El-Masri.Hisham@epa.gov)>; Esteban, Emilio - FSIS <[Emilio.Esteban@fsis.usda.gov](mailto:Emilio.Esteban@fsis.usda.gov)>; Hoff, Dale <[Hoff.Dale@epa.gov](mailto:Hoff.Dale@epa.gov)>; Kapraun, Dustin <[Kapraun.Dustin@epa.gov](mailto:Kapraun.Dustin@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; LaLone, Carlie <[lalone.carlie@epa.gov](mailto:lalone.carlie@epa.gov)>; Lau, Chris <[Lau.Christopher@epa.gov](mailto:Lau.Christopher@epa.gov)>; Abbott, Linda - OCE <[linda.abbott@usda.gov](mailto:linda.abbott@usda.gov)>; Mills, Marc <[mills.marc@epa.gov](mailto:mills.marc@epa.gov)>; Morgan, Marsha <[morgan.marsha@epa.gov](mailto:morgan.marsha@epa.gov)>; Nichols, John <[Nichols.John@epa.gov](mailto:Nichols.John@epa.gov)>; Lupton, Sara - ARS <[sara.lupton@usda.gov](mailto:sara.lupton@usda.gov)>; Smith, David - ARS <[david.j.smith@usda.gov](mailto:david.j.smith@usda.gov)>; Wetmore, Barbara

<[wetmore.barbara@epa.gov](mailto:wetmore.barbara@epa.gov)>

**Subject:** RE: USDA-EPA Collaboration

Paul and others,

John Nichols was able to identify the attached paper which is on a PBPK model for PFAS uptake by cattle through feed and elimination through milk.

Ron

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**From:** Schlosser, Paul

**Sent:** Thursday, July 11, 2019 3:34 PM

**To:** Hines, Ronald <[Hines.Ronald@epa.gov](mailto:Hines.Ronald@epa.gov)>; El-Masri, Hisham <[El-Masri.Hisham@epa.gov](mailto:El-Masri.Hisham@epa.gov)>; Esteban, Emilio <[emilio.esteban@usda.gov](mailto:emilio.esteban@usda.gov)>; Hoff, Dale <[Hoff.Dale@epa.gov](mailto:Hoff.Dale@epa.gov)>; Kapraun, Dustin <[Kapraun.Dustin@epa.gov](mailto:Kapraun.Dustin@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; LaLone, Carlie <[lalone.carlie@epa.gov](mailto:lalone.carlie@epa.gov)>; Lau, Chris <[Lau.Christopher@epa.gov](mailto:Lau.Christopher@epa.gov)>; Linda Abbott <[linda.abbott@usda.gov](mailto:linda.abbott@usda.gov)>; Mills, Marc <[mills.marc@epa.gov](mailto:mills.marc@epa.gov)>; Morgan, Marsha <[morgan.marsha@epa.gov](mailto:morgan.marsha@epa.gov)>; Nichols, John <[Nichols.John@epa.gov](mailto:Nichols.John@epa.gov)>; Sara Lupton <[sara.lupton@ars.usda.gov](mailto:sara.lupton@ars.usda.gov)>; Smith, David J. <[david.j.smith@ars.usda.gov](mailto:david.j.smith@ars.usda.gov)>; Wetmore, Barbara <[wetmore.barbara@epa.gov](mailto:wetmore.barbara@epa.gov)>

**Subject:** RE: USDA-EPA Collaboration

Greetings, all,

One of the earlier emails said that a herd of cattle had been destroyed because of PFAS contamination. I presume this was out of concern for the human exposure that would have occurred, had they been processed into meat for human consumption. So in risk assessment/management, exposure through both food and drinking water contamination would need to be evaluated, relative source contribution.

From NCEA's perspective, we will make use of existing PBPK or BBDR models and often make modest revisions/corrections, but we are not a 'research' center, so usually avoid significant new model development or revision. We are seeking to obtain the code/files for the recently published Kim et al. PBPK models for rats and humans, and in the meantime attempting to reproduce them based on the published description and results. But we don't have any plans to develop a BBDR, just use the PK data, possibly the models, for animal-human extrapolation.

-Paul

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**From:** Hines, Ronald  
**Sent:** Thursday, July 11, 2019 2:27 PM  
**To:** El-Masri, Hisham <[El-Masri.Hisham@epa.gov](mailto:El-Masri.Hisham@epa.gov)>; Esteban, Emilio <[emilio.esteban@usda.gov](mailto:emilio.esteban@usda.gov)>; Hoff, Dale <[Hoff.Dale@epa.gov](mailto:Hoff.Dale@epa.gov)>; Kapraun, Dustin <[Kapraun.Dustin@epa.gov](mailto:Kapraun.Dustin@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; LaLone, Carlie <[lalone.carlie@epa.gov](mailto:lalone.carlie@epa.gov)>; Lau, Chris <[Lau.Christopher@epa.gov](mailto:Lau.Christopher@epa.gov)>; Linda Abbott <[linda.abbott@usda.gov](mailto:linda.abbott@usda.gov)>; Mills, Marc <[mills.marc@epa.gov](mailto:mills.marc@epa.gov)>; Morgan, Marsha <[morgan.marsha@epa.gov](mailto:morgan.marsha@epa.gov)>; Nichols, John <[Nichols.John@epa.gov](mailto:Nichols.John@epa.gov)>; Sara Lupton <[sara.lupton@ars.usda.gov](mailto:sara.lupton@ars.usda.gov)>; Schlosser, Paul <[Schlosser.Paul@epa.gov](mailto:Schlosser.Paul@epa.gov)>; Smith, David J. <[david.j.smith@ars.usda.gov](mailto:david.j.smith@ars.usda.gov)>; Wetmore, Barbara <[wetmore.barbara@epa.gov](mailto:wetmore.barbara@epa.gov)>  
**Subject:** USDA-EPA Collaboration

Good afternoon,

Many have you have responded with availability for August 7, 1:00 to 2:00 PM EDT. Thank you.

In anticipation of that meeting, I would like to suggest that individuals begin sharing ideas. In particular, it would be good for the USDA representatives to share their research needs and on the EPA side, we can begin sharing what we believe might be some approaches. Hopefully we can then meld those together during our call. At this point in the exercise, please do not worry about resources. I am going to assume that if we do a good job with problem formulation and identifying possible approaches to developing solutions, resources will be made available. This effort has been identified as high priority by both Agencies.

As a few examples:



Rather than replying to all, I will suggest that you send your ideas to me. I will compile these and share them with the group on a weekly or bi-weekly basis up until the meeting.

Ron Hines, PhD

Associate Director for Health

US EPA, NHEERL

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